

AMENDMENTS TO THE CLAIMS

- Please amend claims 23 and 24 as follows:

23. (AMENDED) ~~The microthermionic converter of claim 22~~ A self-powered microthermionic converter comprising:

an emitter electrode;

a collector electrode separated from said emitter electrode by a micron-scale interelectrode gap;

a self-powered thermal power source in thermal contact with said emitter electrode;

means for removing electrons emitted by the emitter electrode;

means for returning the emitted electrons to the collector electrode; and

additionally comprising a thermal heat barrier;

wherein the thermal heat barrier comprises a micro heat barrier comprising a plurality of microspikes and at least one highly IR reflective surface.

24. (AMENDED) ~~The microthermionic converter of claim 22~~ A self-powered microthermionic converter comprising:

an emitter electrode;

a collector electrode separated from said emitter electrode by a micron-scale interelectrode gap;

a self-powered thermal power source in thermal contact with said emitter electrode;

means for removing electrons emitted by the emitter electrode;

means for returning the emitted electrons to the collector electrode; and

additionally comprising an electrically insulating material disposed between non-interacting portions of said emitter electrode and collector electrode.

Application No. 10/028,144

- Please add new independent claim **56**:

56. (NEW) A self-powered microthermionic converter comprising:

an emitter electrode;

a collector electrode separated from said emitter electrode by a micron-scale interelectrode gap;

a self-powered thermal power source in thermal contact with said emitter electrode;

means for removing electrons emitted by the emitter electrode;

means for returning the emitted electrons to the collector electrode; and

a thermal heat barrier;

wherein said interelectrode gap is greater than or equal to about 1 micron and is less than or equal to about 3 microns;

wherein a length of said emitter electrode is greater than or equal to about 50 microns and is less than or equal to about 100 microns; and

wherein said interelectrode gap comprises a vacuum.